time to start L-AMB from HSCT was day 9 (day-34 - day103), and median duration of usage was 23 (7-151) days. Median time to accelerated point (over normal range) and maximum point of serum creatinine level from the day of starting administration were 6 and 12 (1-29 and 3-73) days respectively. Maximum creatinine level was significantly higher in patients using for over 23 days compared with that of shorter. Median replacement dose of potassium and magnesium were 55 (0-160) mEq/day and 20 (0-35) mEq/day respectively. Median starting dose of L-AMB was 2.5 (2-5) mg/kg. Breakthrough fungal infections were detected in one patient with *Candida glabrata*, one patients with probable aspergillosis and two probable other fungal infection. All patients were administrated in combination with several drugs including immune suppressants, vancomycin. In conclusion, although feasible usage of LAMB, it should be paid attention to nephrotoxicity especially due to long-term usage, hypokalemia, kypomagnesemia and breakthrough IFIs in allogenic HSCT recipients using L-AMB.

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STANDARDIZATION OF CD34 TESTING IS NEEDED FOR PHERESIS PROCEDURE DETERMINATION

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Flow Cytometric enumeration of CD34+ and Hematopoietic Stem Cells is widely used for determining the adequacy of collection. Though most centers use ISHAGE approved platforms, there are wide variations in results affecting the number of collections done. Variables that could possibly affect these results may include: sample dexterity influenced by travel time which can increase background staining of antibody, variations in Flow Cytometry processing method, Flow Cytometer equipment, gating methods, and skill set of those completing the testing. CD34 results can affect the determination by a DC to stop pheresis collections.

We looked at results of 21 products from unrelated donors received at our Transplant Center (TC) and compared our CD34 results against the Donor Center's (DC) CD34 results. Our TC center CD34 values ranged from 1.90 – 44.60 x 10^6 CD34/kg of recipient weight (median 5.33), The DC CD34 values ranged from 3.11 – 20.47 x 10^6 CD34/kg (median 8.5). In total, 90% of the TC CD34 values were less than the DC results with a range of 21%-417% (median 61.5%). Product travel time was looked at to determine if it may have affected the difference in CD34 results. Approximate time between testing at DC and testing at TC ranged from 6 – 47 hours (median 34.625). No correlation was found between approximate elapsed time of sample testing and CD34 results. CD34 values had no effect on patient engraftment (ANC 500 range 7-25 days, median 15d; Plt 20 range 14-69 days, median 20d).

In summary, there is a wide variation in the estimated number of CD34+ cells in the product between the DC and TC. The possible explanations are discussed above. It is not clinically significant in our group since the number of cells infused is still much higher than the minimum required for engraftment.

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OUTCOMES OF ALLOGENEIC HEMATOPOIETIC STEM CELL RECIPIENTS DIAGNOSED WITH INVASIVE FUNGAL INFECTION PRIOR TO TRANSPLANT PROCEDURE

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The mortality of allogeneic hematopoietic stem cell (allo-HSC) recipients transplanted with invasive fungal infection (IFI) is high due to the risk of infection progression. Eleven (8 children and 3 adults) out of 256 (4.3%) patients who underwent allo-HSCT from January 2005 to August 2010 at Wroclaw Pediatric Transplant Center were diagnosed with IFI, classified as possible (4), probable (2) or proven (5), median 40 days (11 - 60) prior to allo-HSCT. In spite of persistent IFI, transplant procedures were not postponed due to advanced underlying diseases: acute leukemias in unstable remission (10) or aplastic anemia (1). Two patients (1 Rhisopus disseminated infection, 1 probable lung Aspergillosis) died of lung insufficiency (septic shock or capillary leak syndrome) before engraftment. Both received combined antifungal treatment: amphotericin lipid complex (ABLC) or liposomal formulation (L-AMB) + posaconazole (PCZ) or echinocandine. One patient with proven Aspergillosis treated with ABLC followed by Posa died of a leukemia relapse 1 year post allo-HSCT without symptoms of IFI. Eight patients with previous lung infection are alive for median 17,6 months (2 - 69. 5) post allo-HSCT. Complete resolution of lung infiltrates was achieved in 6 and partial in one (still on treatment). In 5 of them several antifungal drugs (VCZ, PCZ, LAMB, echinocandins) were used in different sequences as monotherapy (switched one to other according to treatment response or toxicity). Two patients received combined therapy with echinocandine + VCZ or ABLC. Intensive antifungal treatment was followed by secondary prophylaxis with itraconazole (3), PCZ (2) or VCZ (2) for median 6 months (2-22). Three out of 7 patients underwent resection of persistent pulmonary lesions. One patient with possible lung Aspergillosis was treated with L-AMB switched to VCZ followed by PCZ until 13 months post HSCT which resulted in resolution of lung lesions reappearing one month later Then antifungal therapy was given again (VCZ followed by PCZ) for 10 months. Five years after allo-HSCT and 2.5 years off antifungal treatment, he is well, however CT imaging revealed new lung infiltrates.

Conclusions: Active IFI is not a contraindication for allo-HSCT. IFI treatment has to be intensive and include secondary prophylaxis with anti-mold effective drugs. In case of insufficient response to antifungal monotherapy both combination treatment and surgical intervention may be used as salvage option.

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ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION IN PATIENTS WITH MYELODYSPLASTIC SYNDROMES AND SECONDARY ACUTE MYELOID LEUKEMIA – THE RETROSPECTIVE ANALYSIS

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Background: Myelodysplastic syndromes (MDS) are the heterogenous group of diseases with a different risk of development to acute leukemia (AL). The allogeneic stem cell transplantation (alloSCT) is one of the treatment possibilities that is more accessible thanks to availability of recent conditioning regimes. Many questions are still open. The goal of the retrospective analysis was the evaluation of alloSCTs performed in two transplantation centres to estimate the importance of alloSCT for MDS patients (pts), to evaluate prognostic parametres and the course of alloSCTs and overall survival (OS). Patients characteristics: The cohort consisted of 30 pts, male:female ratio was 1:1, transplanted in 1997 – 2010, the age were 23 – 63 year (median 56). According the WHO 2001 classification the pts were initially classified as: 2 (7%) 5q- sy, 2 (7%) RARS, 9 (30%) RCMD, 6 (20%) RAEB I, 11 (36%) RAEB II, according to IPSS as: 2 (6%) low risk, 11 (37%) intermediate-1, 11 (37%) intermediate-2, 6 (20%) high risk. In 13 cases (43%) alloSCT was performed in leukemic phase, in majority of cases after induction/consolidation chemotherapy. 6 (20%) pts underwent alloSCT during the progression into more advanced MDS and 11 (37%) in phase of stabile disease. 11 pts (37%) underwent myeloablative conditioning regime and 19 (63%) pts reduced intensity regime. 14 transplantations were from sibling donors, 16x from unrelated donors, only in 1 case was used bone marrow.

Results: Median of follow-up from MDS diagnosis was 33 months, from alloSCT 15 months. Transplantation was performed in median of 11 months from diagnosis of MDS. 11 pts died in the whole cohort – the reason was the progression of disease (4x), infection complications (4x), GVHD and current infection (3x). It dealt initially about the most risky MDS, 8 (27%) transformed into AL, according IPSS 4 (13%) were initially high risk, 7 (23%) intermediate (int-1 and int-2). Median from diagnosis was 12 and from alloSCT 3 months. Other pts have received long time remission and in the low risk MDS transfusion dependence was removed and the quality of life was outstandingly improved. At the moment 19 (63%) pts live with median of follow-up 49 month from MDS diagnosis and 27 months from alloSCT.

Conclusion: It is possible curatively influence MDS or secondary AL in favour of patient exploiting aloSCT. Consideration of this curative possibility should have become routine part of diagnostic-prognostic algorithm in MDS patients.